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QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER

HALIYUR, VENKATESH N

ART UNIT	PAPER NUMBER
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2419

NOTIFICATION DATE	DELIVERY MODE
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12/15/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/084,019	Applicant(s) TIEDEMANN ET AL.	
	Examiner VENKATESH HALIYUR	Art Unit 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/03/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 (claims 1-7 canceled) is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-13, 15-18, 20-21, 23, 25-26 is/are rejected.
- 7) ☒ Claim(s) 14, 19, 22, 24, 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 09/03/2008 has been considered. However amendment(s) necessitated new ground(s) of rejection using newly discovered reference. Therefore the rejection of claims communicated via previous office action has been withdrawn. The allowability of claims 14, 19, 20-22 indicated in previous office action has been withdrawn. Rejection follows.
2. Claims 1-27 are pending in the application. Claims 1-7 are canceled. Claims 23-27 are new.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed inventions in claims 25-27 are rejected under 35 USC 101 because the claimed invention is directed to non-statutory subject matter.

Claim 25 recites the limitation for "A computer readable medium comprising: code for causing a computer to...." which fails to comply with the 101 interim guidelines set forth therein (please refer to pages 52-53 of the 101 interim guidelines).

It is well established that a computer program product or a software product or computer readable instructions (or code), per se is not a physical "thing" and does not define any structural and functional interrelationships between the computer program code and the rest of the computer, which permits the computer program's functionality to be realized. Also the instructions is defined to include electromagnetic waves or signals in the specification (see para 1065).

In order for a computer program or software instructions to be statutory it must be embodied (encoded) in a computer-readable medium capable of being executed by a computer and for signal claims.

Thus, claims 25-27 is directed to non-statutory subject matter since the patent protection sought by the claimed invention is for the computer program (instructions or code) in the abstract and for signal claims.

Appropriate corrections are required to these claims without introducing any new matter to the disclosure or these claims must be canceled or the specification must be amended to remove references to signals in the definition.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 25-27 claim "A computer readable medium comprising: code for....." is vague and is indefinite because it is unclear how a medium can comprise instructions. A medium can have instructions stored on it, recorded on it, etc, but it is not clear how it can just comprise instructions. Therefore appropriate corrections are required to claims 25-27.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 12-13, 25-26 are rejected under 35 U.S.C. 103(a) as being anticipated by DeMartin et al [US Pat: 6,421,527] in view of Ling [US Pat: 5,216,692].

Regarding claims 12, 25, DeMartin et al in the invention of "System for Dynamic Adaptation of Data/Channel Coding in Wireless Communications" disclosed in a wireless communication system (**Figs 1-3, col 1, lines 45-50**) for

processing voice communications and packet-switched communications, a base station (**BS of Fig 3, col 2, lines 8-28**) comprising: receive circuitry (**Figs 2-3**) operative to receive signals on a reverse link (**up link, col 3, lines 19-47, Figs 3**), including a quality message with a parity check (**differential coding for channel measurement with 1 bit parity check for different channel grade, col 6, lines 1-43, Fig 1**), and differential indicators (**channel grade indicators**), the quality message periodically providing a quality metric of a forward link (**down link C/I measurements, col 3, lines 66-67, col 4, lines 1-8**), wherein the differential indicators track the quality metric between successive quality messages (**moving average of the quality indicator C/I of the channel, col 4, lines 48-55**); a memory storage unit operative to store a quality message received on the reverse link (**item 63 of Fig 4, col 4, lines 56-65**); and a differential analyzer (**item 39 of Fig 2, channel analysis with delta modulation**) to update the quality message stored in the memory storage unit in response to the differential indicators and the parity check (**col 5, lines 64-67, col 6, lines 1-44**). DeMartin et al disclosed receive circuitry (**Fig 3**) operative to receive signals on a reverse link (**up-link**), including a quality message with a parity check (**measurement bit**) with channel grade quality indicators, but fails to positively disclose that the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages.

However, Ling in the invention of "A method and apparatus for adjusting a power control threshold in a communication system" disclosed a method for receiving the

quality message periodically providing a quality metric of a forward link, wherein the differential indicators (**indicator is set based on difference signal**) track the quality metric between successive quality messages received at the receiver (**Receiver circuitry, item 100 of Fig 1, col 5, lines 35-63, col 7, lines 26-56, Figs 1-2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving quality message periodically providing a quality metric of a forward link, wherein the indicator is set based on difference signal to track the quality metric between successive quality messages received as taught by Ling in the system of DeMartin et al to receive the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages. One is motivated as such in order to provide differential indicators to in the quality message to track the quality metric of a forward link to estimate channel condition to accurately maintain signal power levels to minimize noise in wireless communication systems.

Regarding claim 13, DeMartin et al in the disclosed a wireless communication system comprising processing unit (**Figs 1-4, col 1, lines 45-50**), operative for executing computer-readable instructions; and a memory storage unit adapted to store plurality of computer-readable instructions for: generating quality messages (**col 4, lines 32-48**) and differential indicators (**indicator is set based on difference signal**) at first frequency (**downlink-frequency, col 5, lines 53-67**), the quality messages providing information on the quality of a

communication link (**col 1, lines 45-50**), wherein the differential indicators track a quality metric between successive quality messages (**C/I quality indicator of the channel, col 4, lines 48-55**); and generating a parity check (**measurement bit**) for each of the quality messages (**differential coding for channel measurement with 1 bit parity check for different channel grade, col 6, lines 1-43, Fig 1**).

DeMartin et al disclosed generating quality message with a parity check (**measurement bit**) with channel grade quality indicators, but fails to positively disclose wherein the differential indicators track the quality metric between successive quality messages. However, Ling disclosed a method for receiving the quality message periodically providing a quality metric of a forward link, wherein the differential indicators (**indicator is set based on difference signal**) track the quality metric between successive quality messages received at the receiver (**Receiver circuitry, item 100 of Fig 1, col 5, lines 35-63, col 7, lines 26-56, Figs 1-2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving quality message periodically providing a quality metric of a forward link, wherein the indicator is set based on difference signal to track the quality metric between successive quality messages received as taught by Ling in the system of DeMartin et al to include the quality message with differential indicators to track the quality metric between successive quality messages. One is motivated as such in order to provide differential indicators to in the quality message to track the quality

metric of a forward link to estimate channel condition to accurately maintain signal power levels to minimize noise in wireless communication systems.

Regarding claim 26, DeMartin et al disclosed the feature of dynamically adjusting the first window based on operation of the system **(moving average method, col 2, lines 19-32, col 4, lines 48-55)**.

8. Claims 8-11, 15-17, 20-21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chennakeshu et al [US Pat: 5,905,742] and Shibutani [US Pub: 2003/0002518] further in view of Ling.

Regarding claims 8,11, Chennakeshu et al in the invention of “Method and Apparatus for Channel Symbol Decoding” disclosed in a wireless communication system **(Figs 2-4)** , a method comprising: estimating a channel condition over a first time window **(channel quality measured over a holding window, col 9, lines 18-29, Fig 4)**; comparing the estimated channel condition to a first threshold value **(col 9, lines 30-39)**; Chennakeshu et al disclosed transmitting differential indicators **(channel quality indicator, col 5, lines 1-15)** based on the comparison **(col 8, lines 14-67,1-17)** and transmitting differential indicators with quality messages **(col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B)** but fails to disclose determining a transmission rate for transmission of quality messages and transmitting quality messages at the transmission rate, However, Shibutani in the invention of “Slot Assignment Algorithm” disclosed a method for transmitting messages at different rates based on the determination of a channel

condition (**para 0046-0047, Figs 3-4, Table 2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages. Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators (**indicator is set based on difference signal, Figs 1-2**) with quality messages (**power control indicator is transmitted every 1.25ms, col 5, lines 35-63**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claim 9, Chennakeshu et al disclosed wherein the first time window is dynamically adjusted based on operation of the system (**col 9, lines 61-67, col 10, lines 1-9**).

Regarding claim 10, Chennakeshu et al disclosed calculating an average channel condition (**col 8, lines 36-44**); and calculating variance of the channel condition (**col 8, lines 45-67, col 9, lines 1-3**).

Regarding claim 15, Chennakeshu et al disclosed a wireless apparatus (**Fig 2/6**), comprising: processing unit (**item 39 of Fig 2, item 52 of Fig 6**), operative for executing computer-readable instructions (logic); and a memory storage unit (**item 50 of Fig 6**) adapted to store a plurality of computer-readable instructions for: estimating a channel condition over a first time window (**channel quality measured over a holding window, col 9, lines 18-29, Fig 4**); comparing the estimated channel condition to a first threshold value (**col 9, lines 30-39**); Chennakeshu et al disclosed transmitting differential indicators based on the comparison (**col 8, lines 14-67, 1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose determining a transmission rate for transmission of quality messages and transmitting quality messages at the transmission rate, However, Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition (**para 0046-0047, Figs 3-4, Table 2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at

different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages and differential indicators based on the comparison and transmitting quality messages at the transmission rate and transmitting differential indicators with quality messages.

Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** independent of quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-63).**

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claim 16, Chennakeshu et al disclosed that the wireless communication system supporting a plurality of carriers (**plurality of Figs 2-4, col 11, lines 14-31**), a method comprising: determining an average channel condition among the plurality of carriers (**channel quality measured over a holding window, col 8, lines 36-67, Fig 4**); comparing the average channel condition to a first threshold value (**col 9, lines 1-29**); Chennakeshu et al disclosed transmitting differential indicators based on the comparison (**col 8, lines 14-67, 1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose determining a transmission rate for transmission of quality messages and transmitting quality messages at the transmission rate, However, Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition (**para 0046-0047, Figs 3-4, Table 2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages and differential indicators based on the comparison and transmitting quality messages at the transmission rate and transmitting differential indicators with quality messages.

Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose

wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** independent of quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-63)**.

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claim 17, Chennakeshu et al disclosed assigning a weight to each of the plurality of carriers, wherein the average channel condition is a weighted average **(col 11, lines 32-56)**.

Regarding claims 20, Chennakeshu et al disclosed a wireless apparatus **(Figs 2/6)**, comprising: a quality measurement unit configured to estimate a channel condition **(highest quality indicator)** over a first time window **(col 5, lines 1-15)**; a differential analyzer **(item 48 of Fig 2, signal tracker)** configured to compare the estimated channel condition to a first threshold value **(stages, col 9,**

lines 18-61, Fig 4);. Chennakeshu et al disclosed controller (**Figs 2A/B**) configured to transmit differential indicators based on the comparison (**col 8, lines 14-67, 1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose that the that the controller configured to determine a transmission rate for transmission quality messages and the differential analyzer further configured to generate quality messages at the transmission rate, the differential analyzer further configured to transmit differential indicators independently of quality messages, However, Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition (**para 0046-0047, Figs 3-4, Table 2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages and differential indicators based on the comparison and transmitting quality messages at the transmission rate and transmitting differential indicators with quality messages.

Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators (**indicator is**

set based on difference signal, Figs 1-2) independent of quality messages (power control indicator is transmitted every 1.25ms, col 5, lines 35-63).

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claims 21, 23, Chennakeshu et al means for dynamically adjusting the first window based on operation of the system **(col 9, lines 18-27).**

9. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jia et al [US Pub: 2003/0072395] and Chennakeshu et al [US Pat: 5,905,742] further in view of Ling [US Pat: 5,216,692].

Regarding claim 18, Jia et al in the invention of "Method and Apparatus for Channel Quality Measurements" disclosed a wireless communication system comprising processing unit **(Fig 2)**, operative for executing computer-readable instructions; and a memory storage unit adapted to store plurality of computer-readable instructions for **(para 0034-0037)**: determining a best channel condition

associated with a first frequency and generating a quality message (**CQI, para 0057-0059**) and a frequency indicator, the frequency indicator identifying the first frequency (**para 0075-0077**) but fails to disclose the limitation of generating differential indicators separately from the quality message. However Chennakeshu et al disclosed the limitation of generating and transmitting differential indicators separately from the quality message (**col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Chennakeshu et al in the system of Jia et al to generating and transmitting differential indicators independently of quality messages. Jia et al disclosed transmitting channel quality indicators in the quality message, but both Jia and Chennakeshu fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators (**indicator is set based on difference signal, Figs 1-2**) independent of quality messages (**power control indicator is transmitted every 1.25ms, col 5, lines 35-63**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Jia et al as modified by Chennakeshu et al to include the method of transmitting differential

indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Allowable Subject Matter

10. Claims 14, 19, 22, 24, 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, the rejection under 35 USC 101 and 35 USC 112 2nd paragraph made in this office action must be overcome for allowability of the claims.

Response to Arguments

11. Applicant's argument's, see remarks, filed on 09/03/2008, with respect to rejection of claims 8-13, 15-18 have been fully considered and are persuasive. The examiner agrees with the applicant's argument that even though DeMartin (quality measurement data of the channel, col 2, lines 19-37), Chennakeshu (channel quality indicator, col 5, lines 1-15, col 8, lines 35-45) and Jia et al (channel quality indicator, para 0058-0059) references disclosed transmitting

channel quality indicators in quality messages for indicating channel condition in quality messages, but both references fail to positively disclose the features of sending the differential indicators to track the quality metric between successive quality messages and transmitting differential indicators independently of quality messages. However in view of the arguments made in remarks filed on 09/03/2008 with respect to rejection of claims 8-19 that the references fail to teach these features, the examiner performed a new search and discovered new references which have been used to overcome the deficiencies of the prior art. Therefore the rejection communicated via previous office action of 06/03/2008 has been withdrawn. However a new ground(s) of rejection has been made using newly found Ling reference.

12. With respect to applicant's argument that the examiner rejected the previously allowed claims 12, 13 over DeMartin reference in the office action of 06/03/2008, however on further review of the claims filed in RCE (filed on 02/021/2008) the examiner discovered new sections where DeMartin reference read on the claim limitations and therefore the examiner gave a broad interpretation of the claim limitations and withdrew the previously indicated allowability.

Conclusion

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13. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached @ (571)-272-7884. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

Examiner, Art Unit 2419

/Edan Orgad/

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Supervisory Patent Examiner, Art Unit 2419